

AMENDMENTS TO THE SPECIFICATION:

Please amend the specification on page 9, lines 10-24 as follows:

A

--As shown in Figure 2, the structure of the runtime measurements subsystem 202 is depicted. Several systems, including instrumentation in the executing code, hardware performance monitors and VM instrumentation 205, produce raw profiling data 206 as the program runs. Additionally, information is gathered by sampling program execution using techniques such as described in commonly-owned, co-pending U.S. Patent application Nos. 09/703,527 [[____]] (~~YOR9200000357, D#13734~~), [[____]] and, 09/703,530 [[____]] (~~YOR9200000357, D#13732~~). This sampling produces raw profiling data, which is typically collected in buffers (not shown). After sufficient raw data has been collected in a buffer, separate threads called *organizers* 215 periodically process and analyze the raw data. Thus, it is understood that the generation of raw profiling data is separated from the data analysis for two reasons: 1) it allows multiple organizers 215 to process the same raw data, possibly in different ways; 2) this separation allows low-level profiling code to execute under strict resource constraints. This is because not only just application code may be monitored, but also system services of the VM. So, for example, low-level code that monitors the VM memory allocator must not allocate any objects (it must use pre-allocated data structures and buffers) and should complete its task in a short time period.--

Please amend the specification from page 17, line 26 to page 18, line 5 as follows:

A

-- In accordance with the teachings of commonly-owned, co-pending U.S. Patent application [[Nos.]] No. 09/703,527 [[____]] (~~YOR9200000357, D#13734~~), the contents and disclosure of which are incorporated by reference herein, it is understood that a wide variety of sampling information may be collected when a yield point is taken. That is, a low-level mechanism exists

#2
that is available to map from a taken yield point to a method. Typical mechanisms include (1) inspecting the hardware state to determine the instruction address at which the yield point was taken and mapping that address to a method; and (2) inspecting the program's runtime stack to identify the method in which the yield point was taken, possibly by inspecting the return addresses stored on the runtime stack. These low-level sampling mechanisms may further identify and track executing further information such as method call-context, basic blocks (execution of control flow paths within executing methods) and program variable values which may be processed for characterizing program behavior.--

Please amend the specification on page 18, lines 15-18 as follows:

A3
--In addition to incrementing a method counter, more complex samples may be taken to aid method inlining. For example, the techniques described in commonly-owned, co-pending U.S. Patent Application No. 09/703,530 _____ (YOR9200000357, D#13732) are potential embodiments for **takePrologueSample**. --

Please amend the specification on page 25, lines 1-6 as follows:

A4
--To facilitate online FDO the runtime measurement subsystem is augmented to capture information about the characteristics of methods being executed. Such characteristics may include: calling context information, such as described in commonly-owned, co-pending U.S. Patent Application No. 09/703,530 _____ (YOR9200000357, D#13732) incorporated herein by reference, values of parameters passed to a method, and common control flow path information through a method. Other characteristics are possible.--